REMARKS

Claims 1-20 are pending in this application.

The Office Action (1) rejects claims 1-2, 5, 8-10, 13, 15-18 and 20 under 35 U.S.C §103(a) over the combination of U.S. Patent No. 6,728,381 to Hosoya, U.S. Patent No. 5,333,064 to Seidner et al. (Seidner), and U.S. Patent No. 5,343,309 to Roetling; (2) rejects claims 3, 4, 6, 11, 12 and 19 under 35 U.S.C. §103(a) over Hosoya, Seidner, and Roetling, and further in view of U.S. Patent No. 5,822,467 to Lopez; and (3) rejects claims 7 and 14 under 35 U.S.C. §103(a) over Hosoya, Seidner, and Roetling, and further in view of U.S. Patent No. 6,538,771 to Sakatani et al. (hereinafter "Sakatani"). Applicants respectfully traverse the rejections.

Regarding independent claims 1, 9, 18 and 20, the applied references fails to disclose (1) "selecting two or more filters from a filter bank based directly on the estimated screen frequency and one or more limit parameters"; (2) "filtering the image data using the selected two or more filters from the filter bank such that the image data is filtered by each of the selected two or more filters resulting in two or more filtered image data each corresponding to either the entire image data or a same portion of the image data"; and (3) "blending the two or more filter data" (emphasis added), as recited in independent claim 1, and the corresponding elements, means, and instructions of independent claims 9, 18 and 20.

Hosoya discloses a system for reducing noise in a video signal, such as produced by a video tape recorder (VTR) (col. 4, lines 21-25). The Office Action cites to Figure 18. Figure 18 shows multiple band pass filters (BPFs) 12a-12n, which extract predetermined frequency components (col. 4, lines 26-30). The filtered signal components are limited to reduce the signal strength, band pass filtered to reduce harmonics introduced by the step of limiting, and subtracted from the original signal (Figure 18.) The predetermined frequency components correspond to carrier frequencies in the video signal (col. 4, lines 26-29). Because Hosoya

discloses band pass filters each centered at a different carrier frequency, Hosoya fails to disclose producing two or more filtered image data each corresponding to either the entire image or a same portion of the image data. The Office Action states that Hosoya fails to disclose (1) generating an estimated screen frequency, and (2) selecting filters based on the estimated screen frequency, but cites to Seidner for these features.

Seidner discloses a system for de-screening color half-toned (HT) images by de-screener 12. De-screener 12 has a plurality of screen removal filters 20 and a switch 24, operated by controller 22, to switch among the filters 20 (Figure 1, col. 7, lines 39-50). The Office Action cites to Figure 7, showing a method of de-screening. At Figure 7, step 50, the de-screener 12 evaluates the screen parameters, including the frequency and angle of the half-toned image (col. 12, lines 58-60). At Figure 7, step 52, a plurality of screen removal filters are produced (col. 12, lines 66-68). At Figure 7, step 56, the de-screener 12 de-screens the half-toned image (col. 13, lines 7-10). The choice of which filter 20 is used is based on the location of the output pixel (col. 7, lines 46-48; col. 8, lines 53-65). Because Seidner discloses that controller 22 operates switch 24 to select one of the filters 20 to filter each output pixel, Seidner fails to disclose production of two or more filtered image data each corresponding to either the entire image or the same portion of image data. The Office Action states that Hosoya modified by Seidner fails to disclose selection of a filter from a filter bank, but cites to Roetling for this feature.

Roetling discloses a system that implements a programmed procedure 30 (Figure 2) to de-screen half-toned images by an iterative, adaptive filter. The Office Action cites to col. 5, line 38 and Figure 2. In operation, the image is processed by a low pass filter at block 34 (Figure 2) to produce a first approximation image (FAI) (col. 6, lines 29-31). The pixels are then sequentially processed at block 36 by an adaptive filter having one or more sets of pre-selected features (Figure 2, col. 6, lines 31-42). Each pixel is processed by only one filter

selected under feedback control based on the content of the FAI (col. 6, lines 42-45). Because Roetling discloses that each pixel is filtered by one filter, Roetling does not disclose production of two or more filtered image data each corresponding to either the entire image or a same portion of the image data.

The applied references fail to disclose features (1)-(3) quoted above because (A) it would not have been obvious to combine the references as proposed and (B) even if the applied references are combined as proposed, the proposed combination fails to discloses features (1)-(3) quoted above.

It would not have been obvious to combine Hosoya with either Seidner or Roetling. Hosoya is directed to removal of background noise from video signals. Hosoya's filters are designed to correspond to the frequencies of carrier signals in the video signals. In contrast, Seidner and Roetling are directed to de-screening a single half-toned image. In Seidner, the choice of screen removal filter 20 that is used is based on the location of the output pixel. In Roetling, the filter chosen is based on feedback control based on the content of the FAI for the pixel. One of ordinary skill would not have modified Hosoya by either Seidner or Roetling because Hosoya on one hand, and Seidner and Roetling on the other hand, are directed to removing different kinds of noise (background noise versus half-tone screen artifacts) from different original data (video signals versus half-tone images). Thus, there is no technical reason to modify Hosoya by Seidner and Roetling as proposed. Further, there is no half-tone screen artifacts in the video signals of Hosoya, thus there would be no benefit to modifying Hosoya by either Seidner or Roetling. The Office Action relies on impermissible hindsight in rejecting Applicants' claims in view of the combination of references.

However, even if Hosoya is modified by Seidner and Roetling, the resulting combination would be the Hosoya system modified to remove half-tone screen artifacts as taught by Seidner and Roetling. Because Seidner discloses selecting a pixel's filter based on

the location of the output pixel and Roetling discloses selecting a pixel's filter under feedback control based on the content of the FAI for the pixel, the proposed combination would not result in filters being selected "based directly on the estimated screen frequency ..." as recited in feature (1) quoted above. Additionally, as discussed above, none of Hosoya, Seidner and Roetling disclose filtering of a same portion of the image data or the entire image data by two or more filters. Thus, features (2)-(3) also would not result in the proposed combination.

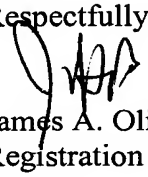
Neither Lopez nor Sakatani overcome the deficiencies in Hosoya, Seidner and Roetling described above.

For the foregoing reasons, Applicants request withdrawal of the rejections.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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